

# KOLOA SUGAR COMPANY

Oldest Sugar Area Where Portuguese-Americans Own  
Their Own Homes and Work on Plantation.

**T**HE property of the Koloa Sugar Company is situated in the Koloa District of Kauai.

This is the oldest sugar cane district in the islands. The most ancient system of handling the sugar was in vogue, the cane crushers having been stone rollers.

Two of these unique rollers are still to be seen in the manager's yard. At that remote period the cane was planted and harvested by Hawaiians, but the area was quite small.

The total land now controlled by the company is 13,000 acres, 7257 acres of which is held in fee simple, the remainder under lease. About 5000 acres is considered good cane land, 3160 acres is now under cultivation and 500 more will be brought in next season. Two-thirds of this is planted in Lahaia and one-third in Yellow Caledonia.

The soil on the uplands is a red loam, while on the lowlands it is alluvial. The cane is grown at elevations from sea level up to 600 feet. The method of cultivation is by irrigation and fertilization, using from 800 to 1000 pounds of Pacific Guano and Fertilizer Co.'s high-grade fertilizers.

Plowing is done with two sets of Fowler's steam tackles, this being the first plantation in the islands to use these English plows, in 1892.

Cane grown upon this estate matures in from fourteen to sixteen months on an average. Water for irrigating purposes is obtained from springs and mountain streams.

Some years ago the Company obtained valuable water rights from the natives under a series of long leases which gives the plantation at the lowest stage of the stream a daily flow of fully 15,000,000 gallons. The average annual rainfall at Koloa for the last eighteen years has been 62.6 inches, while about eighty inches fall each year at the watersheds mauka (near the mountains).

The daily average supply of water is upwards of 20,000,000 gallons, the Wilcox ditch alone supplying about 6,000,000 gallons. The maximum daily flow for the same ditch is 40,000,000 gallons.

## New Koloa Ditch.

A new ditch has been built running from the same water sheds which has a capacity of 65,000,000 gallons every twenty-four hours. This ditch was constructed at an expense of \$17,000 and in fresher times takes the surplus water from the water sheds to the largest reservoir in the islands. This is but one-half mile from the mill and originally held 1,500,000,000 gallons, but has recently been raised five feet which gives it a capacity of 3,000,000,000 gallons.

This reservoir was constructed by Civil Engineer J. S. Maloney, and is situated in a large marsh unsuitable for growing cane. Three sides are bound by neighboring hills and the fourth is a dam 23 feet high. The shutoff, consisting of a square, hollow tower, stands near the center of the reservoir, so that should any accident occur at the outlet the water could be turned off at a moment's notice, without emptying the reservoir. The intake capacity of this immense reservoir is 200,000,000 gallons in 24 hours. The Marsh reservoir with the M. M. and Hauiki reservoirs nearby, drain a great many acres of land in the Waialeale mountains and also near the Kahili and Kopouloa peaks.

In connection with the mountain water supply the Company has erected at a suitable point a Reidler duplex 5,000,000 gallon pumping system, which raises the water from the natural streams in a single lift of 130 feet and discharges into reservoirs having a capacity equal to 15,000,000 gallons, from whence it is distributed by a system of pipe lines and ditches to the different cane fields.

Transportation for the cane from field to mill is a main railroad system fifteen miles long, connected with portable field track some two miles in extent. The main line is supplied with 250 cane cars, having an average capacity of 2½ to 3 tons. The motive power is two Baldwin and two German locomotives.

## Profit Sharing Labor.

There are about 900 laborers on the plantation, two-thirds of the work being performed by day labor and one-third by company men or profit sharers. The average pay for unskilled labor is \$20.00 per month, with free house room, fuel, water and medical attendance. The company maintains its own hospital.

## Independent Laborers.

Many Portuguese owning their own homes or renting them at a small figure, are paid \$1.00 per day by the company, others take contracts for certain fields, pay for all their help, purchase for cash all of their supplies and are paid \$3.50 to \$4.00 per ton for their cane at the mill. This has proven very satisfactory as it stimulates the laborer to get the largest crop possible out of his land and gives him a feeling of indepen-

dence and makes him a very desirable citizen.

## Crop for 1909.

The total output for 1908 was 7360 tons. For the 1909 crop there has been planted 778 acres of plant cane, 784 acres of long ratoons and 275 acres of short ratoons. This should give a crop of nearly 7680 tons as the average return of sugar is four tons per acre, although in 1908 it reached nearly 4½ tons.

The cane is fed direct to the 9-roller mill which is supplied with the Deming super-heating system, five open clarifiers, one nine and two twelve-ton vacuum pans, one triple effect, twenty-four Weston make, centrifugals and a sacking device, taking the sugar

direct from the centrifugals. The three mills are driven by two Corliss engines, steam being generated by burning bagasse which is fed automatically to the furnaces. The Company manufactures one grade of sugar, all the lower grade sugars and molasses being worked over into the No. 1 grade. The capacity of the mill is eighty tons in twenty-four hours.

The average mill extraction of the sucrose in cane is about 92½ per cent, depending very largely, of course, upon the general condition of the cane.

Connected with the mill are the machine, carpenter and blacksmith shops, where the various appliances are driven by water power. Water for mill purposes is taken from the stream flowing near the mill.

All cane is weighed before going through the mill. Connected with the mill is the laboratory, where all sugars manufactured are under complete chemical control.

Some two miles from the mill is the steamer landing, to which point all sugar is conveyed by rail, and thence shipped to Honolulu. The warehouse is capable of holding 12,000 sacks of sugar.

Upon the lands of the Company there are

the following stocks of animals for working purposes and meat supply of the plantation: Working cattle, 300 head; sheep, 600 head; beef cattle, 700; mules 80; and horses, 150.

Mr. W. Weinheimer has been manager of this successful company since 1906. Previous to that time he had charge of the Lawai section of the McBryde Plantation. The increase in capacity of the large reservoir and the construction of the new ditch are both due to his efforts. He has engaged to take the management of the Pioneer plantation at Lahaia, Maui.

For assistants he has the following staff:

Head Overseer, Chas. Wilcox; Chief Mill Engineer, F. Loehr; Bookkeeper, Geo. Bruce; Timekeeper, Philip Rice; Store Manager, A. Buchholz; Physician, Dr. A. H. Waterhouse.

## Officers of the Company:

President, Hans Isenberg.  
Vice-President, C. M. Cooke.  
Treasurer, W. Pfotenbauer.  
Secretary, F. Klamp.  
Auditor, A. Haneberg.  
Directors, C. M. Cooke; H. Isenberg, D. P. R. Isenberg, F. Klamp, W. Pfotenbauer.  
Honolulu Agents, H. Hackfeld & Co.

# WAIMEA SUGAR CO.

Plantation That Has Been Successful In Developing  
A Mountain Water Supply.

**T**HE Waimea Sugar Mill Company, is one of the small properties upon the Island of Kauai. Its total acreage of 500 acres is planted with the Lahaia variety of cane.

About one-third of the area in cane is plant, the balance ratoons. The highest elevation at which cane is planted is 100 feet. The soil is a red loam, the method of preparation for planting being ordinary plowing with mules. Cultivation process is by hilling up, fertilization and irrigation.



JOHN FASSOTH  
Manager Waimea Plantation, Kauai.

## Four-Mile Ditch.

Twelve inches is the average yearly rainfall, yet from January 1st, 1905 until September but one inch of rain fell, the cane crop depending upon irrigation. From March 1 to Oct. 1, 1908 no rain whatever fell. The water supply for irrigation purposes formerly came from wells, the water being lifted by Risdon high-duty compound pumps. These pumping plants are not in use at the present time. Water is now brought from the Waimea river through a ditch four miles long, which furnishes about 6,000,000 gal-

lons every twenty-four hours. This amount is more than sufficient to supply every portion of the plantation. The low lands are drained of all superfluous water by 40,000 feet of drainage ditching.

In transporting the ripened cane to the mill two miles of main and one of portable track are in use, supplied with thirty-eight cars, each with a capacity of five tons. All of the cane upon this plantation matures in from fifteen to eighteen months as it does not tassel. The soil being good, the irrigation system perfect and the cane not tassel, allows it to grow almost continually and for this reason the ratoon crop about equals the plant. Under favorable conditions the cane will run seven tons of sugar to the acre, or from 70 to 80 tons of cane to the same area, varying, of course, during some seasons. The 1909 crop is looking exceptionally fine, they expect 700 tons of sugar.

The Company is now trying to branch out in the valleys more each year, 25 acres of Lahaia cane has been planted in one valley and the cane is growing well. If it can get hold of more land the intention is to increase. From 70 acres it will take in 1909 the fifth crop, this means a fourth ratooning with no apparent diminution in output.

The plantation contributes to the support of the Waimea school and has built a neat school-house for the Japanese children.

## Profit-Sharing Labor.

There are 150 laborers upon the plantation, all of the field labor of every description being done by profit-sharing contract system, which is thoroughly satisfactory to all concerned. Fertilization requires 1400 pounds of fertilizer to the acre. The plantation owns twenty-five head of horses and mules.

The cane as it is brought to the mill is dropped into the endless carrier, passing through a nine-roller mill with a capacity of turning out 15 tons of raw sugar in twelve hours.

The mill was erected by the Honolulu Iron Works, and consists of open clarification system, triple effect, two Honolulu Iron Works pans, centrifugals driven by

separate power, and much other machinery. The bagasse and low grade molasses are used for fuel. Only one grade of sugar is manufactured, all of the low grade sugars and some of the molasses being worked over into the A or No. 1 grade.

The 1908 output of sugar was 1660 tons. Planting for the 1909 crop has begun during June and July 1908 and finished in August of the same year.

The company's warehouse at the mill has increased its capacity to 5000 bags of sugar. The sacked sugar is conveyed by cars to the landing at Waimea, a short distance away, and shipped direct to Honolulu.

John Fassoth is manager of the plantation. He has been with the property for twenty-five years, first as sugar boiler then engineer and now manager. He has been identified with the sugar industry in the islands since 1882.

Following is a list of employees of the mill:

Mill Engineer, F. Sato; Sugar Boiler, H. Willgeroth; Asst. Sugar Boiler, M. J. Fassoth; Physician, Dr. B. F. Sandow.

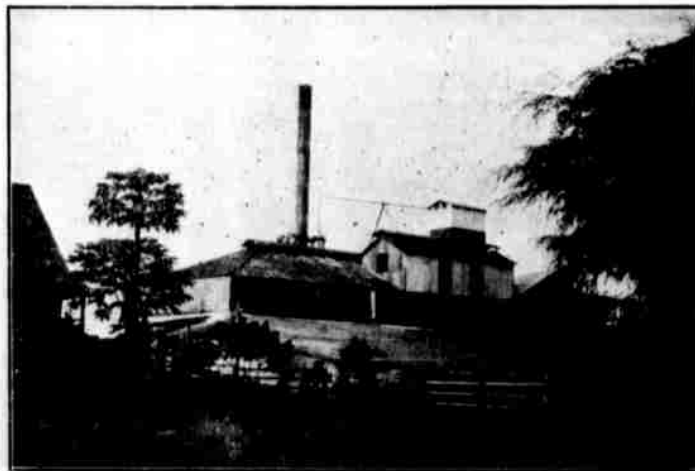
The officers of the Company are:  
President, E. D. Tenney.  
Vice-President, H. P. Faye.  
Treasurer, F. Klamp.  
Secretary, T. H. Petrie.  
Auditor, T. R. Robinson.  
Director, W. E. Rowell.  
Chief Mill Engineer, F. Sato; Sugar Boiler, H. Willgeroth; Assistant Sugar Boiler, M. J. Fassoth; Physician, Dr. Sandow.

Castle & Cooke, Ltd., are the Honolulu agents.

# The GREGG COMPANY, Ltd.

One of the main reasons for the success of the Gregg Co., Ltd. in catering to the needs of sugar planters is its policy of keeping in close touch, through its branches, with every new development in the sugar industry. With a large factory and main office at Newburgh, New York, and branches in Hawaii, Cuba, Porto Rico, New Orleans and New York City, The Gregg Company, sells plantation railway equipment direct to the sugar estates in these places. Representatives of the Company, in addition, visit Japan, Formosa and South America, in fact, every sugar producing country. In each locality it has adapted its products to the needs of the planters. Through its direct representatives, The Gregg Company is enabled to maintain its position as a specialist in narrow gauge railroad and plantation railway equipment. Gregg Cane Cars, Gregg Cane Unloaders and Gregg Portable Track are well and favorably known wherever sugar is grown.

In Hawaii Gregg Cane Cars are in use on every large sugar estate. The excellence of their design, the strength and durability of the material employed in their construction, and their patent labor saving features make these Cars the standard of the islands. Among the features which establish Gregg cane cars as of exceptional value are the patent malleable iron spring drawheads, adjustable stake pockets and malleable iron brake heads. The drawheads are made with wide faces so that no matter how sharp a curve they will not slide past each other, are equipped with heavy springs, thus saving the car much hard usage, and are practically indestructible. Another feature which recommends them to the planter is that they have permanent links and pins, thus doing away with the old trouble of pins getting lost in the trash and going through the rollers. The adjustable stake pockets are equipped with an ingenious device through which the laborious hammering at jammed stakes is a thing of the past. The malleable iron brake head holds the shoe securely in place, but is so made that when the latter is worn out it can be replaced in



Waimea Sugar Company's Mill on Kauai. A rich producer.